

# **I. Pollution Prevention at Healthcare Facilities**

## **Pollution Prevention**

Stated simply, pollution prevention (P2) avoids or minimizes generation of waste from the start. P2 means **reducing** or **eliminating** the generation or toxicity of **waste** at its source. P2 avoids the transfer of pollutants or wastes from one medium (such as air, water or land) to another, and includes water and energy conservation.

Pollution prevention can be as simple as improving preventive maintenance and fixing leaks. It might involve upgrading to an energy-saving technology. It may be as easy as purchasing environmental preferable products.

In general the pollution prevention planning process is six simple steps.

1. Get Organized.
2. Analyze Processes.
3. Identify Alternatives.
4. Evaluate Alternatives.
5. Implement Projects.
6. Measure Progress.

## **Benefits of P2**

There are many benefits to pollution prevention. These include, but are not limited to:

- Decreased waste management, handling, and disposal costs.
- Reduced chemical purchases.
- Healthier work place.
- Enhanced community image.
- Decreased liability risks.

Since 1998, NHPPP has been partnered with the U.S. Environmental Protection Agency (EPA) and Foundation for Healthy Communities to undertake a project promoting the reduction of mercury at healthcare facilities. This on-going project involves providing on-site assistance at participating facilities, setting up an infrastructure to promote continuous environmental improvement, and providing outreach and training activities to N.H. healthcare facilities, as well as the creation of this document.

## **P2 Can Help Healthcare Facilities**

Healthcare facilities face substantial challenges keeping costs down, competing in the marketplace, and complying with increasingly stringent and complex regulations, while maintaining a high quality of care. Recently, environmental regulatory agencies have stepped up enforcement efforts aimed at the medical and dental sector. At the same time, growing environmental awareness among local communities has resulted in healthcare facilities paying more attention to these issues.

P2 strategies, like reducing the amount of toxic material going into a facility, are key to minimizing the environmental impact of that facility's operations. Eliminating the use of toxic

substances, such as mercury, can reduce risk to healthcare professionals, patients, and the environment, as well as reducing environmental liabilities. In addition, the healthcare facilities can save significant amounts of money through decreased purchase, management and disposal costs.

An easy way to implement a P2 project for hospitals is provided in the following box. Solvent distillation units can greatly reduce hazardous waste and provide significant savings.

### **P2 Opportunity for Hospitals: solvent distillation units**

Solvent distillation units recycle cleaning or other solvents, such as xylene, and have a very short payback period. There are a variety types and sizes of units available from vendors (a wealth of information is available online). These units can be used to produce 99.9 percent pure, or “white grade” solvent. By recycling and reusing this solvent over and over, a hospital can save significant amounts of money by not having to purchase virgin solvent and by reducing hazardous waste disposal costs previously incurred from the disposal of waste solvent.

### **Environmentally Preferable Purchasing**

Environmentally Preferable Purchasing (EPP) designates techniques, protocols or policies that organizations can use to ensure that the environmental impacts of the products they purchase are screened and minimized before they enter a facility. EPP is a pollution prevention strategy because it eliminates purchasing *hazardous products* that could eventually be a *hazardous waste*. EPP techniques can be used to ensure that environmentally friendly products are purchased, when possible, and to prevent certain toxics (such as mercury-containing items) from entering the facility. EPP can be expanded to consider environmental choices for all purchasing choices.

- Environmentally Preferable Purchasing How-To Guide  
Chapter 5 in Health Care Without Harm’s *Going Green*  
[www.noharm.org/library/docs/Going\\_Green\\_5-1\\_Environmentally\\_Preferable\\_Pur.pdf](http://www.noharm.org/library/docs/Going_Green_5-1_Environmentally_Preferable_Pur.pdf)
- Healthcare Environmentally Preferable Purchasing  
[www.state.ma.us/ota/support/med.htm#epp](http://www.state.ma.us/ota/support/med.htm#epp)
- How to Do EPP in Hospitals  
[www.h2e-online.org/tools/epp1.htm](http://www.h2e-online.org/tools/epp1.htm)

### **P2 Resources and Information**

There are many websites with useful P2 opportunities and mercury and dioxin reduction information. The programs with the most information on P2, mercury, dioxin, and a host of other topics can be found at the following websites. Particular documents or web pages on these and other sites throughout this resource are referenced for your convenience.

### **Hospitals for a Healthy Environment**

[www.H2E-online.org](http://www.H2E-online.org)

Hospitals for a Healthy Environment (H2E) is a joint effort by the American Hospital Association, EPA, Health Care Without Harm and the American Nurses Association. H2E strongly supports eliminating mercury-containing waste from the healthcare waste stream, reducing the volume of generated waste, and minimizing the production of persistent, bioaccumulative and toxic pollutants (PBTs).

### **Health Care Without Harm**

[www.noharm.org](http://www.noharm.org)

Health Care Without Harm's (HCWH) mission is to transform the healthcare industry worldwide, without compromising patient safety or care, so that it is ecologically sustainable and no longer a source of harm to public health and the environment. HCWH will accomplish this by:

- Promoting comprehensive pollution prevention practices.
- Supporting the development and use of environmentally safe materials, technology and products.
- Educating and informing healthcare institutions, providers, workers, consumers, and all affected constituencies about the environmental and public health impacts of the healthcare industry and solutions to its problems.

Their website is focused on various topics including polyvinyl chloride (PVC), incineration, mercury, pesticides and pollution prevention.

### **The Sustainable Hospitals Project**

[www.sustainablehospitals.org/cgi-bin/DB\\_Index.cgi](http://www.sustainablehospitals.org/cgi-bin/DB_Index.cgi)

The Sustainable Hospitals Project provides technical support to the healthcare industry for selecting products and work practices that reduce occupational and environmental hazards, maintain quality patient care, and contain costs. Their website is designed to assist hospitals in procuring more environmentally friendly products.

### **Foundation for Healthy Communities**

[www.healthynh.com](http://www.healthynh.com) and click on *Healthy Environment*.

The New Hampshire Hospital Association's Foundation for Healthy Communities (FHC) works to provide information to hospitals in the state to advance their environmental improvement efforts. It does this through its web site, environmental newsletter for hospitals (*STATGreen*), educational programs, and by facilitating regular business meetings of the New Hampshire Hospitals for a Healthy Environment network.

### **New Hampshire Hospitals for a Healthy Environment**

[www.healthynh.com](http://www.healthynh.com) and click on *Healthy Environment*.

In direct response to the ongoing interest expressed by New Hampshire's hospitals regarding issues such as mercury reduction, recycling, waste minimization, environmentally preferable purchasing, and other information geared towards environmental improvement, the Foundation for Healthy Communities announced the formation of the New Hampshire Hospitals for a Healthy Environment (NH3E) network in July 2001. NH3E is a network of New Hampshire hospitals concerned with how their practices can impact the environment and health of the communities they serve. Its purpose is to learn and share information on vendors, environmental rules, and

training opportunities with other New Hampshire hospitals facing similar concerns and challenges while working to reduce both the volume and toxicity of their waste.

### **Pollution Prevention Resource Exchange**

[www.P2rx.org](http://www.P2rx.org)

Pollution Prevention Resource Exchange (P2Rx) was created in 1997 by EPA to lay the groundwork for a seamless national network of P2 information that promotes waste reduction throughout the U.S. In the past, finding information required valuable time and resources. P2Rx is for business, government, citizens, and technical assistance providers to access P2 information.

P2Rx is composed of eight regional centers that offer a range of services, including information for industry and topic sectors, training, library resources, referrals and research. Through P2Rx, the centers collect, synthesize, and update technical information; and provide contact information for experts and other sources. Visit the P2Rx *Medical Care* hub website located at:

[www.p2rx.org/P2InfoNexpert/medical.cfm](http://www.p2rx.org/P2InfoNexpert/medical.cfm).

### **Additional Resources to Review**

- Eleven Recommendations for Improving Medical Waste Management  
[www.nihe.org/elevreng.html](http://www.nihe.org/elevreng.html)
- Environmental Self-Assessment For Healthcare Facilities  
[www.getf.org/file/toolmanager/O16F4755.pdf](http://www.getf.org/file/toolmanager/O16F4755.pdf)
- Guides for Pollution Prevention -- Selected Hospital Waste Streams  
[www.p2pays.org/ref/02/01059.pdf](http://www.p2pays.org/ref/02/01059.pdf)
- Health Care Pollution Prevention  
[www.state.ma.us/ota/support/med.htm](http://www.state.ma.us/ota/support/med.htm)
- Publications and Articles on Pollution Prevention  
[www.nihe.org/publicat.html](http://www.nihe.org/publicat.html)